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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,235	11/03/2003	Yu-Ching Huang		3773

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EXAMINER	
PENG, CHARLIE YU	
ART UNIT	PAPER NUMBER
2883	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/700,235	HUANG ET AL.	
	Examiner	Art Unit	
	Charlie Peng	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/700,235.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Due to the lack of description, it is unclear to the examiner whether the fourth fusion region is formed from existing four fibers or additional fibers, where the fourth fusion region may be located, or what its function may be.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C.§103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 9 are rejected under 35 U.S.C.§102(b) as being unpatentable over U.S. Patent 5,664,037 to Weidman. Weidman teaches a WDM coupler having four

optical fibers and three regions **60**, **64**, **65** where at least two fibers are fused together (or fusion regions). (See at least **Fig. 9** and its description)

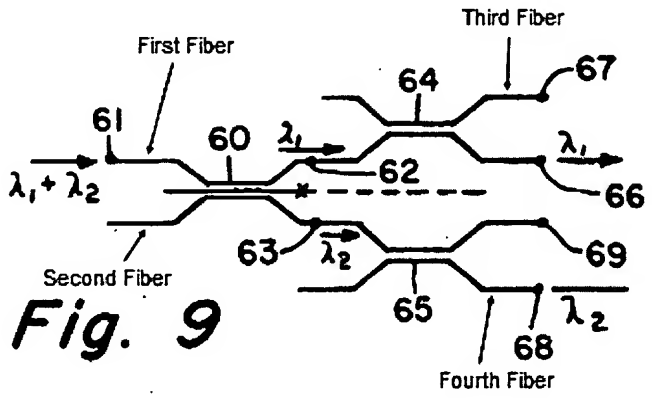

Fig. 9

Weidman further teaches that the first and second fibers are fused at a first fusion region **60**, the first fiber extends and is coupled with the third fiber at a second fusion region **64**, and the second fiber extends and is coupled with the fourth fiber at a third fusion region **65**. Weidman still further teaches that the fiber coupler could be made by fusing (through heating) and stretching (elongating) the fibers within a glass tube. (See at least Column 3, line 48 – Column 4, line 4) Weidman still further teaches that the WDM coupler system receives a multiple-wavelength (λ_1 λ_2) light signal into the first fiber to the first coupler **60**, where one wavelength λ_1 is separated into the second coupler **64** and is further separated by the second coupler back into the first fiber, and the other wavelength λ_2 is transmitted to the third coupler **65** and further separated by the third coupler to the second fiber. (See at least **Fig. 9** and its detailed description) Although Weidman only teaches the WDM coupler system demultiplexing a two-wavelength signal in this particular embodiment, the WDM coupler system fully meets

the structural limitations of the applicant's claim and therefore clearly can be used in the same manner to demultiplex a signal of a plurality of wavelengths. The coupler is made by inserting fibers into a glass capillary tube and subsequently heating and evacuating the tube to collapse it onto the fibers. Weidman does not teach the glass tube to be cylindrical. With few exceptions, glass tubes are almost always made available cylindrical in shape, and in optical application as well. For example, U.S. PGPub 2004/0129083 to Fernald et al. teaches a cylindrical glass capillary tube **20** with an optical fiber **10** fused thereto. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select cylindrical glass tubes and use them for making fiber optic couplers. The motivation would be that they are commonly available, thus at a reasonable price; they are completely symmetric with respect to their own longitudinal axes; and they are less likely to break under compressive forces than, for example, square-shaped tubes.

Claims 2-8 and 10-19 are rejected under 35 U.S.C.§103(a) as being unpatentable over Weidman in view of U.S. Patent 6,788,852 to Xu et al. Weidman teaches the WDM coupler having a plurality of optical fibers and fusion regions, housed in a cylindrical glass tube, capable of demultiplexing an optical signal having a plurality of wavelengths. Weidman does not teach the WDM assembly to be placed within a quartz sleeve as disclosed in claims 2, 8, and 10. Xu teaches a double tube fiber coupler package having an inner sleeve **114** (which is a quartz tube) used to receive the coupler package. (See at least **Fig. 2** and its detailed description) It would have been obvious to one having ordinary skill in the art at the time the invention was made use

place the WDM coupler as taught by Weidman within the sleeve by Xu. The motivation would be to provide mechanical and moisture protection to the fusion regions.

Referring specifically to claims 3 and 11, Xu teaches epoxy (which can be glue) element **122a, b**, **136a, b**, through which optical fibers **102, 104** pass, used to form a seal around the optical fibers **102, 104**.

Referring specifically to claim 4-7, 12-15, Xu teaches two other tubes/sleeves **111, 131**, both of which enclose the inner sleeve **114** (each having larger orifice diameter, and each having epoxy element **122a,b** or **136a,b** applied thereto in order to form seals). The holes of each sleeve are also sealed by washers **135a, b** and **138 a,b**.

Referring to claim 16-19, Weidman and Xu teach the WDM assembly and all of its structural limitations. The method of making contains all of the same limitations regarding structural components and their functions and is merely stating the most obvious and logical way of making the WDM couple. The method is thus also rejected. It is noted that Weidman and Xu do not teach cleaving excess fiber outside the shrink sleeve. It would have been obvious to one of ordinary skill in the art at the time the invention was made to remove any excessive fiber outside the protection sleeve, since it has been held that removal of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. In re Karlson, 311 F.2d 581, 584, 136 USPQ 184, 186 (CCPA 1963) The motivation could be one of many reasons such as it is more visually aesthetically pleasing without the extra and non-functional fibers, or the WDM assembly would be less likely to become entangled with other wiry parts without the extra and non-

functional fibers, or the complete removal of the extra and non-functional fibers would allow a better seal against the sleeves using the epoxy elements.

Claim 20 is rejected under 35 U.S.C.§103(a) as being unpatentable over Weidman and Xu in view of U.S. Patent 5,802,224 to Okuta et al. Insofar as the examiner can understand and speculate what is being claimed, Weidman and Xu teaches a method of making a WDM coupler having three fusion regions but not at least a fourth fusion region as claimed. Okuta teaches a WDM optical coupler having four fiber fusion-welding regions WDM1, WDM2, WDM3, COP. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a fourth fusion-welding region by Okuta in the coupler taught by Weidman and Xu. The motivation would be that this setup provides a high wavelength separation characteristic and enables to widen band of wavelength separation.

Response to Arguments

Applicant's arguments filed 02 July 2005 have been fully considered but they are not persuasive.

A. The applicant amended claim 1 by adding a cylindrical sleeve used to receive the fiber coupler. The amended claim is rejected under 35 U.S.C.§103(a) as stated above.

B. The applicant argues that each fusion region only comprises two fibers without a central dummy fiber. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which

applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

C. The applicant argues that the cross-sectional area of the coupling regions of the present invention is the same as the cross-sectional area of said fibers at the first and second ends. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

D. The applicant argues that Weidman fails to disclose that the second fiber extending from the first fusion region further fuses with a fourth fiber. As illustrated in Fig. 9, the second fiber clearly extends from a first fusion region **60** to a third fusion region **65**, where it fuses with a fourth fiber. Weidman further teaches a second fusion region where the first fiber and the third fiber are fused together.

E. The applicant argues that Xu teaches a sleeve 114 is only used for a single fiber and not a plurality of fibers as claimed. While this is true, Xu also teaches the sleeve being used to receive a coupler, and a coupler may contain a plurality of fibers and fusion regions (as taught by Weidman). It has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combination of references. In re Keller, 208 USPQ 871 (CCPA 1981)

F. Regarding applicant's argument about claims 3 and 11, rejected as being unpatentable over Weidman and Xu. Xu teaches epoxy elements **136a,b** provide additional strength and adhesion to the seal formed by washers **135a,b**. (See at least column 5, lines 44-46)

G. Regarding applicant's argument about claims 4 and 12, rejected as being unpatentable over Weidman and Xu. The examiner designates the glass tube use to form the coupler (as taught by Weidman) as the receiving sleeve, and an outer cylinder 112 (used to receive the inner/receiving sleeve 114) as the shrinking sleeve. The applicant further argues that the shrink sleeve can be shrunk by heating, so that the receiving sleeve(s) can be fixed in the shrink sleeve by heating. Such limitation is not explicitly stated in the claims and the argument is therefore not considered.

H. Regarding applicant's argument about claim 9, the argument has been properly addressed in items E and G.

I. Regarding claim 10 and applicant's argument on page 18 of a cylindrical sleeve, the argument has been properly addressed in items A and E.

J. Regarding applicant's argument about claims 16-19, rejected as being unpatentable over Weidman and Xu. The argument refers to structural claims and has been properly addressed in previous items.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form PTO-892 for additional references cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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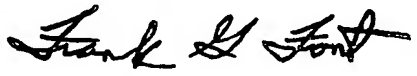

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